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The role of Meta-cognitive beliefs on substance dependency

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Abstract

The purpose of this study is to investigate the role of meta-cognitions in substance dependency disorder. The sample of 70 treatment-seeking substance abusers and 70 individuals from the general population participated in this research and they were compared on the following measure: Meta-cognitions Questionnaire 30 (MCQ-30). Multiple analysis of variance(MANOVA),and discriminant analysis were performed on the data. MANOVA revealed that all of five meta-cognitive beliefs were significantly different and higher for substance dependents sample than for the general population. The discriminant analysis indicates that three meta-cognitive factors include "negative beliefs about thoughts concerning uncontrollability and danger", " beliefs about the need to control thoughts" and " cognitive self-consciousness" were independent predictors for substance dependency disorder . These results provide more supportive evidence for S-REF theory in which substance dependency supported by disruptions of meta-cognitive monitoring and control,and also this study and its results recommend that psychotherapists and specialists In the therapy and reduction of substance dependence consider and challenge meta-cognitive beliefs.

Keywords: Meta-cognitive beliefs, Substance dependency Disorder.

1. Introduction

Substance Dependency is one of the biggest problem and worry of the world. As the Substance Dependency, stop the growth of the society, it is a big threat to our being. Treatment is included of diseases such as AIDS and hepatitis and addiction is also one of the biggest warn in the world(Margoline et al, 2006). This study in addition of explaining the Substance dependency disorder has tried to predict the variables of this disorder. One of the most important variables is meta-cognitive beliefs which includes of beliefs which the person has about his thoughts.

In cognitive-behavioural theory the main concept is that Substance Dependency is learned behavior which acquired by conditions of means and its interactions but the cognitive approaches has got some limitations which these beliefs can be mentioned for it and is to neglect the meta-cognitive beliefs. S_REF model is one of the new approaches of this category is in the treatment of mental disorder and is the first model for conceptualizing multiple factors of metacognition. This model suggests that mental disorders are protected by stop thinking and monitoring which finally these lead to CAS (cognitive attention syndrome). This syndrome causes the failure of correction of

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not adopted beliefs and increase of negative information availability about the self and therefore mental disorder and unsuccessful solutions are carried out in these individuals.

Researches has shown that meta-cognitive beliefs (meta cognitive dimensions) has relationship with vast category of mental disorders in which the followings can be mentioned: GAD (Cartwright-Hatton 1997, Wells and carter 2001), OCD symptoms (wells, Papageorgiou, c), hypochondriasis (Bouman, 1999) exam anxiety (Ireson, Nikshiok, Spada et al 2006), Procrastination (Spada, hiou, 2006), PTSD (Holeva, Tarrier and Wells 2001), psychosis (Morrison et al 2000), and depression (wells, 2009).

In the past recent decade in the discussion of Substance dependency disorder, the role f meta-cognitive beliefs are neglected. The first researches in the ground of meta-cognitive beliefs roles in Substance Dependency were done by wells and his colleagues. the research results includes that there is relationship between Substance dependency disorder and meta cognitive beliefs(wells, 2009). In one test which was done to some patient of Substance Dependents, it was shown that there is some relationship between dependencies to drug and meta-cognitive beliefs. Especially that between three factors (positive beliefs about worry, beliefs about cognitive confidence and negative beliefs about worry) with Substance Dependency there is a positive relationship and in case of two later comparisons there is a weak relationship. Also in two other researches the approaches showed that the Substance Dependent compared to normal individual has meaningfully higher grade in five grades of meta-cognitive factors.

Therefore what is necessary in this research to survey, is the significant and therapeutic role of deficient meta-cognitive beliefs in discussion of addiction and the present study has been arranged to understand the meta-cognitive beliefs and them key role in Substance dependency disorder and prepare the ground for dependencies to drug.
The assumption of research is as follows:

Inspired by present research and theoretical fundamentals, the present research focuses on the following assumptions:

a) Main Assumption

Rate of meta-cognitions in addict people is more than non addict people.

b) Subordinate Assumption

Rata of positive meta-cognitive beliefs about worry is higher in addict people than non addict people.

Rate of negative meta-cognitive beliefs about worry is higher in addict people than non addict people.

Rate of meta-cognitive beliefs about low cognitive confidence is higher in addict people than non addict people.

Rate of meta-cognitive beliefs about need to thought control is higher in addict people than non addict people.

Rate of meta-cognitive beliefs in case of cognitive self-consciousness is higher in addict people than non addict people.

2. Method

2.1. Statistical universe, Sample and sampling method

2.2. The design of present research is "ex post facto"(post hoc design). Statistical community of this research includes of all addict men which had visited in the Mellatdust Clinic for at-moment treatment. Also normal individuals included of employees of the same center and of the society and employee of shahed university that matched in some variables (ٔ age, gender, social- economic conditions, level of education) with normal individuals. In this study the sample capacity was 140 persons (clinical group 70 and normal group 70) selected. And the sampling method was target sampling.

2.3. Measures

Metacognitions Questionnaire30 (MCQ-30;Wells&Cartwright-Hatton,2004): This measure assesses Individual differences in meta-cognitive beliefs, judgments and monitoring tendencies .It consists of 5 Replicable sub-scales assessed by 30 items in total. The 5 sub-scales measure the following dimensions Of meta-cognition:(1) positive beliefs about worry(e.g. “worrying helps me cope”); (2) negative beliefs about worry concerning uncontrollability and danger(e.g. “when I start worrying I cannot stop”); (3) Beliefs about cognitive confidence (e.g. “my memory can mislead me at times”); (4) beliefs about the need to control thoughts(e.g. “not being able to control my thoughts

is a sign of weakness"); and(5) Cognitive self-consciousness (e.g. "I pay close attention to the way my mind works").The MCQ-30 Possesses good internal consistency and convergent validity, as well as acceptable test–retest reliability(wells, 2009).

2.4. Procedure

While in this research, the target was to compare groups is depended on more than one variable, meanwhile the multivariate analysis of variance (MANOVA) was used. So in addition of descriptive statistics the meta-cognitive beliefs comparison and explanation of different individuals (in clinical and non clinical group) the MANOVA has been used and also for determining each share the discriminant analysis has been used for prediction of substance dependency disorder and classification of individuals in groups.

3. Results

The results shows that the average of entire subscales of meta cognitive beliefs of addicted people is higher, in grade, than normal group and this shows that these people has deficient meta-cognitive beliefs more than normal individuals. Especially this difference was significant in two subscales: "negative beliefs about worry concerning uncontrollability and danger" and " beliefs about the need to control thoughts ".

Table 1 Multivariate Tests for five meta-cognitive belief means in two sample(addict and non addict sample)

Variable	Test	Value	F	Hypothesis df	Error df	.Sig
Meta cognitive beliefs(five factors)	Wilks' Lambda	0.02	1340	5	134	.0001

Results (Table 1, based wilks' Lambda) show that difference of meta-cognitive profile in two group is significant and addict people has more deficient meta-cognitive beliefs than normal people($p< 0.001$, $F= 17.565$) therefore the main assumption(Rate of meta-cognitions in addict people is more than non addict people.) is significantly confirmed.

Table 2 Tests of Between-Subjects Effects to survey significance among means in subscales between two groups

Dependent Variable	Type III Sum of Squares	df	Mean Square	F	.Sig
Positive beliefs about worry	143.648	1	143.641	7.061	0.009
Negative beliefs about worry concerning uncontrollability and dangert	961.480	1	961.480	70.912	0.001
beliefs about cognitive confidence	137.70	1	137.070	8.593	0.004
cognitive self-consciousness	498.885	1	498.875	40.754	0.001
beliefs about the need to control thoughts	241.853	1	241.853	23.939	0.001

Here for determining if in which subscale (meta-cognitive beliefs), the normal group and addicted group are different, the results of "tests of between subject effects" were performed and analysis of each variable was showed in table II. findings show that two groups are significantly different in "positive beliefs about worry"($F(2,138)=7.061$, $P< 0.009$), "Negative beliefs about worry concerning uncontrollability and danger"($F(1,138)=70.912$, $P< 0.001$), " beliefs about cognitive confidence "($F(1,138)=8.592$, $P< 0.004$), " cognitive self-consciousness "($F(1,138)=23.939$, $P< 0.001$), and " beliefs about the need to control thoughts"($F(1,138)=40.754$, $P< 0.001$), which confirms that five Subordinate assumption of this research.

Table 3 Standardized Canonical Discriminant Function Coefficients

	Function 1
Positive beliefs about worry	-.16
Negative beliefs about worry concerning uncontrollability and danger	.74
beliefs about cognitive confidence	-.03
cognitive self-consciousness	.32
beliefs about the need to control thoughts	.34

Finally for determining the predictability of each of the meta-cognitive variable in diagnosis of membership in group for each of addicted and non addicted individuals, the discriminant analysis was performed.

Results(Table III) shows that the extracted function has direct relation with negative meta-cognitive beliefs, thought control and cognitive self-consciousness and the multiple of each of them with the resulted grade is 0.32, 0.34, 0,32 meanwhile the coefficient of these three variables are the best predictors for addiction.

4. Discussion

The results of present study showed that there is meaningful difference between the levels of independent levels in new compositional variable. this finding says that the addict persons get higher grade in sufficient meta-cognitive beliefs and is according to the Meta-cognitive theory of S-REF in the field of science of reasons of meta-cognitive disorder specially disorder in addiction and also coordination with the research results of Spada, Nioksiok et al(2007), and Speda and Zandort and Wells(2007), and Spada and Wells(2008), and wells(2009). According to the results of these researches the individual who are having addiction disorder have more deficient meta-cognitive beliefs and suffer emotion disorder. These meta-cognitive beliefs cause these people to feel cognitive syndrome syndrome (CAS), which include repeated thought styles, not adopted justifications habit, worry, and behaviour of this category. By the activation of CAS the addiction activates, therefore the ground of addiction is prepared in patients so according to the approaches of this research it is necessary to pay more attention to the meta-cognitive beliefs in the substance addiction disorders, because the meta-cognitive factors can help more than cognitive factors for addiction and play a key role in the treatment. The main message of the research is that how the addicted reflect the meta-cognitive belief in the process in which the person for controlling the thinking encounter himself relax with the drug and addiction. Which these results are according to the results of Well, Breslau and Novak and Kessler(2004).

The results also show that there is a power relation between "Negative beliefs about worry concerning uncontrollability and danger" more than other factors. in addiction disorder which is according to the wells approaches and meta-cognitive theory of S-REF other important factors are effective in prediction of addiction disorder in cognitive self consciousness and thought control table three so according to present research and according to the discriminant analysis we can say that compositional factors such as " Negative beliefs about worry ", " beliefs about the need to control thoughts " cognitive self-consciousness " are important in pathology of substance dependency disorder and meanwhile with proper program based on meta-cognitive theory and technics we can teat the substance dependency disorder and reduce it's obnoxious symptoms .

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